

General:

What is the history of the Memphis Depot?

Activated in 1941 as a supply depot, the U.S. Army operated the Memphis Depot until 1963 when the Defense Logistics Agency (DLA) took over and operated the facility until it closed in September 1997. The Memphis Depot received, warehoused, and distributed supplies common to all U.S. military services and some civil agencies. Stocked items included food, clothing, petroleum products, construction materials, and industrial, medical, and general supplies.

The Memphis Depot covers 642 acres and consists of two areas – the Main Installation, 574 acres, and Dunn Field, 68 acres. Activities conducted at the Main Installation include pesticide storage and application, vehicle and equipment maintenance, and hazardous material storage and handling. Dunn Field was primarily used to store bauxite and fluor spar for the Defense National Stockpile Center. Disposal activities at Dunn Field began in 1946, with the decontamination and burial of 29 mustard-filled German bomb casings, and continued periodically until the late 1960s.

What is the source of the environmental issues at the Depot?

Prior to the 1960s and 1970s, when people became aware of the environmental impact of waste disposal, it was a common practice to bury garbage and waste materials in the ground. Environmental regulations came into effect, and the Department of Defense began identifying areas at their bases that may require environmental cleanup. In 1981, an environmental assessment identified areas of soil and groundwater at the Memphis Depot that may require cleanup. We have been working since then to fully define the extent of the areas, determine the most effective cleanup methods in consultation with regulators and the community, and implement the cleanup process.

When did the environmental cleanup program begin?

An environmental restoration program has been in place at the Memphis Depot since the 1981 Installation Assessment. Since then the Memphis Depot has completed several additional environmental investigations including an initial Remedial Investigation (RI) in 1989 and 1990.

In 1992, USEPA placed the Memphis Depot on the National Priorities List for environmental cleanup. In 1995, DLA entered into a Federal Facilities Agreement with USEPA and TDEC that outlined the environmental cleanup process for the Memphis Depot. Also in 1995, the Memphis Depot was placed on the list of Department of Defense (DoD) facilities to be closed under Base Realignment and Closure (BRAC). Additional RI fieldwork began in 1998 to more completely define the extent of the affected soil and groundwater.

What remedies have been selected to cleanup the Depot?

The selected groundwater and surface soil remedies for the Main Installation include:

- Excavation, transportation, and off-site disposal at a permitted landfill of an estimated 7,200 ft² of surface soil containing lead concentrations equal to or greater than 1,536 milligrams per kilogram (mg/kg) near the southeast corner of Building 949. The Memphis Depot completed a removal action at this area in August 2001, so this portion of the remedy is completed.
- Deed restrictions and site controls, which include the following:
 - Prevention of residential land use on the Main Installation (except at the existing Housing Area).
 - Daycare restriction controls.
 - Production/consumptive use groundwater controls for the fluvial aquifer and for drilling into aquifers below the fluvial aquifer on the Main Installation.
 - Elimination of casual access by adjacent off-site residents through maintenance of a boundary fence surrounding the Golf Course.
- Enhanced bioremediation of chlorinated volatile organic compounds (CVOCs) in the most contaminated part of the groundwater plume.
- Long-term groundwater monitoring to document changes in plume concentrations and to detect potential plume migration to off-site areas or into deeper aquifers.
- 5-year reviews of the selected alternatives.

The land use controls (deed restrictions and site controls) that are included as part of the selected remedy provide additional layers of protection above the existing land use and groundwater controls as established by the: (1) City of Memphis and Shelby County zoning regulations; (2) Federal Property Management Regulations; and (3) Ground Water Quality Control Board for Memphis-Shelby County Health Department.

The selected remedy for Dunn Field includes:

- Excavation, transport, and disposal of soil and material contained within disposal sites located in the western half of Dunn Field based upon results from a pre-design investigation into these sites. According to the Dunn Field Disposal Sites Remedial Design, Sites 3, 4.1, 10, 13 and 31 will undergo excavation, transport and disposal.
- Use of soil vapor extraction (SVE) to reduce VOC concentrations in subsurface soils to levels that are protective of the intended land use and groundwater.
- Injection of zero-valent iron (ZVI) within Dunn Field to treat chlorinated volatile organic compounds (CVOCs) in the most contaminated part of the groundwater plume.
- Installation of a permeable reactive barrier (PRB) to remediate CVOCs within the off-site area of the groundwater plume (west of Dunn Field).
- Monitored natural attenuation (MNA) and long-term groundwater monitoring (LTM) to document changes in plume concentrations, to detect potential plume migration to offsite areas or into deeper aquifers, and to track progress toward remediation goals.

- Implementation of land use controls, which consist of the following institutional controls: deed and/or lease restrictions; Notice of Land Use Restrictions; City of Memphis and Shelby County zoning restrictions and the Memphis-Shelby County Health Department groundwater well restrictions.

What is progress of the cleanup at the Memphis Depot site?

The environmental cleanup program at the former Memphis Depot is now in the final stages of the six-stage process outlined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). These stages are: Remedial Investigation, Feasibility Study, Proposed Plan, Record of Decision, Remedial Design and Remedial Action.

The Depot completed the Main Installation Remedial Investigation (RI), Feasibility Studies (FS) and Proposed Plan (PP) for Soil and Groundwater in 2000. The Dunn Field RI was completed in 2002 followed by the Dunn Field FS and PP in 2003. The Main Installation Record of Decision was signed in 2001 and the Dunn Field Record of Decision was signed in 2004. The Records of Decision outline the cleanup solutions that will be implemented to address environmental conditions and ensure the sites are safe for future reuse.

The Remedial Designs for the Main Installation and the Dunn Field Disposal Sites have been completed, and Remedial Action (RA) is now underway at the disposal sites. RA at the Main Installation is expected to begin in late 2005. In 2006, we will move forward with the next phase of the approved groundwater treatment on Dunn Field and that will continue through 2007. Based on our current schedule we plan to have all of the Depot property approved for transfer to the community by 2010.

These dates are based on current information and may be subject to change.

The Depot's environmental team will keep the community informed of the progress on the cleanup program through our regular community outreach activities such as public briefings, community information sessions, Restoration Advisory Board meetings, media releases, fact sheets and future issues of EnviroNews.

For more information, please contact the Community Relations Office at (901) 774-3683.

What is the level of cleanup proposed for the Depot?

For the majority of the Depot, the level of cleanup will make it suitable for industrial reuse. The former Family Housing Area is suitable for residential reuse. The Golf Course area is currently suitable for recreational reuse. The eastern half of Dunn Field is available for unrestricted reuse, consistent with property transfer and zoning requirements.

The cleanup levels for the Depot are established by the Base Realignment and Closure (BRAC) Cleanup Team, based on the intended reuse of the site. They have been developed in accordance with USEPA and TDEC regulations. These cleanup levels will meet strict standards for the protection of human health and the environment.

More information on cleanup goals can be found in the Records of Decision for the Main Installation and Dunn Field, which are available for review in the Depot's Information Repositories, or online in the Administrative Record (AR). Go to <http://www.adminrec.com/DLA.asp> and click on the Memphis tab.

Why is it taking so long to clean up this site?

There is a lengthy process of investigating environmental conditions, determining cleanup levels, and developing and implementing cleanup plans under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

Following a thorough records search to identify locations with the potential for hazardous substances, we conducted sampling and analysis to verify the presence and nature of suspected compounds as well as to define the area affected by the suspected compounds. All of that information was used to determine what level of cleanup was required as well as the most effective cleanup remedy. Of the four remedial designs to be prepared for the former Depot, two have been completed and two are being prepared. Implementation of one remedial design (Excavation, Transportation & Disposal) has begun and a second (Enhanced Bioremediation Treatment) is to begin later in 2005.

When will clean up be complete?

All remedies are scheduled to be in place in 2008. It will take approximately 10 to 15 years for the remedies to clean up groundwater to the remedial action objectives – Safe Drinking Water Act standards.

What is the cost of the clean-up?

From 2003 through project completion, environmental restoration costs are estimated to be approximately \$26.2 million dollars.

Who is paying for the clean-up?

The Department of Defense, through the Defense Logistics Agency and the Defense Distribution Center, pays for the cleanup at the Depot. Funds come from the DoD Base Realignment and Closure Account.

Could the environmental cleanup actions at the Depot require the relocation of residents?

No. The environmental conditions and the cleanup activities at the Depot will not require this type of disruption to the community.

What is Chemical Warfare Materiel, and why was it under the ground in Dunn Field?

Between 1942 and 1953, the Depot stored and distributed protective compounds and other materials including Chemical Agent Identification Sets (CAIS), which contained very small amounts of chemical agents and were used to train military personnel in identifying those chemical agents.

When these items became outdated, they were buried underground, which was the common disposal method at the time. Also, in 1946, 29 captured German mustard bomb casings on a train passing through Memphis on its way to Pine Bluff Arsenal in Arkansas were discovered to be leaking. The casings were removed from the train, safely disarmed and drained into a pit on Dunn Field containing a substance that neutralized the mustard, and were then buried in the ground at Dunn Field. The removal and safe disposal of the casings and the pit used to neutralize the drained mustard was completed in 2001.

Is there a possibility you might find more Chemical Warfare Materiel while you're working on Dunn Field?

We do not expect to find any additional CWM material. In 2001, the environmental team completed an early removal action for chemical warfare materiel (CWM) at Dunn Field. During that project, we removed all CWM related materials that were identified in the historical records at the former Memphis Depot. In addition, we conducted a Pre-Design Investigation at the former disposal area on Dunn Field. Based on those two investigations, we do not expect to find any additional CWM material.

Our field crews are trained to identify the nature of the waste that is discovered throughout the cleanup process. A site safety plan will be completed and approved by the USEPA and TDEC as part of the Remedial Action work plan, and our environmental contractors will take all appropriate safety precautions to protect the community.

What controls are in place to minimize dust while working on Dunn Field?

Throughout the process, our contractors follow best environmental practices outlined in the Site Safety Plan to minimize dust during the removal action. These include wetting dry areas and covering excavated soil piles.